

9/06/13 Opener

Simplify: Show all steps

$$4^2 - (7 + 5) \quad 6 \quad 192$$

$$4^2 - 12$$

$$16 - 12 = 4$$

$$(4)$$

$$(3 + 9) \times 2 + 9$$

$$12 \cdot 2 + 9$$

$$\checkmark 24 + 9 = 33$$

9/06/13

Goals: Find sums and differences of real numbers.

Agenda:

- Review Homework p. 26-28 (8-26 evens, 32, 34, 38, 60)
 - check in all past HW
- Section 1.5 - Adding and Subtracting Real Numbers
- Begin Homework

Section 1.5 Adding & Subtracting Real Numbers

Review of Properties:

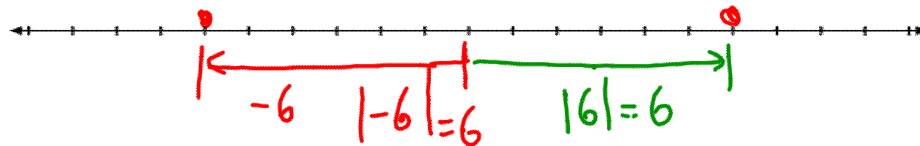
Commutative Property of Addition: $a + b = b + a$
ORDER

Associative Property of Addition: $(a + b) + c = a + (b + c)$
GROUPING

Additive Identity: $a + 0 = a$

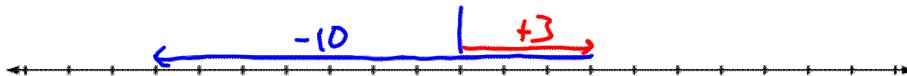
New Material:

Absolute Value: **DISTANCE FROM ZERO**



Adding numbers with the same sign:

$$\begin{array}{l} +, + = + \quad 3 + 5 = 8 \\ -, - = - \quad -7 + (-2) = -9 \end{array}$$



$$+, - = ? \quad 3 + (-10) = -7$$

- SUBTRACT THEIR ABSOLUTE VALUES
THE SUM HAS THE SIGN OF THE
ADDEND WITH THE HIGHER
ABSOLUTE VALUE

$$\begin{array}{l} \swarrow \searrow \\ 3 + (-10) \end{array} \quad 3 - 10 = -7 \quad \begin{array}{l} 10 - 3 = 7 \\ -7 \end{array}$$

Section 1.5 Adding & Subtracting Real Numbers

Adding Real Numbers: $4.8 + (-9.5) = -4.7$



Inverse Property of Addition:

$$a + (-a) = 0$$

$$a - b = a + (-b)$$

$$a - -b = a + (b)$$

HW 1.5 p 34-36
(14-40 EVENS, 70-74 EVENS)

14-40
EVENTS

70-74
EVENTS

A Practice

Use a number line to find each sum.

10. $2 + 5$

11. $-3 + 8$

12. $4 + (-3)$

13. $1 + (-6)$

14. $-6 + 9$

15. $-4 + 7$

16. $-6 + (-8)$

17. $-9 + (-3)$

Find each sum.

18. $11 + 9$

19. $17 + (-28)$

20. $12 + (-9)$

21. $-2 + 7$

22. $-14 + (-10)$

23. $-9 + (-2)$

24. $3.2 + 1.4$

25. $5.1 + (-0.7)$

26. $-2.2 + (-3.8)$

27. $\frac{1}{2} + (-\frac{7}{2})$

28. $-\frac{2}{3} + (-\frac{3}{5})$

29. $\frac{7}{9} + (-\frac{5}{12})$

Find each difference.

30. $5 - 15$

31. $-13 - 7$

32. $-19 - 7$

33. $36 - (-12)$

34. $-29 - (-11)$

35. $-7 - (-5)$

36. $8.5 - 7.6$

37. $-2.5 - 17.8$

38. $-2.9 - (-7.5)$

39. $3.5 - 1.9$

40. $\frac{1}{8} - \frac{3}{4}$

41. $\frac{7}{16} - (-\frac{1}{2})$

42. **Bird Watching** An eagle starts flying at an elevation of 42 ft. Elevation is the distance above sea level. The diagram below shows the elevation changes during the eagle's flight. Write an expression representing the eagle's flight. What is the elevation at the brook?



See Problem 1.

See Problem 2.

See Problem 3.

See Problem 4.

Standardized Test Prep

SAT/ACT

70. What is the value of $-b - a$ when $a = -4$ and $b = 7$?

(A) -11

(B) -3

(C) 3

(D) 11

71. Which expression is equivalent to $19 - 41$?

(F) $|19 - 41|$

(G) $|19 + 41|$

(H) $-|19 - 41|$

(I) $-|19 + 41|$

72. Which equation illustrates the Identity Property of Multiplication?

(A) $x \cdot 0 = 0$

(B) $x \cdot 1 = x$

(C) $x(yz) = (xy)z$

(D) $x \cdot y = y \cdot x$

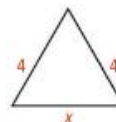
73. What is an algebraic expression for the perimeter of the triangle?

(F) $8 + x$

(H) 8

(G) $4x$

(I) $4 + x$



74. Which point on the number line below is the best estimate for $\sqrt{8}$?



(A) P

(B) Q

(C) R

(D) S